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Remarks

Claims 1 - 19 are pending in this application, as shown in the above Listing of Claims. In the Office Action mailed April 22, 2004, the Examiner rejected claims 1-4, 8-12 and 16-17 under 35 USC §102 as being anticipated by Pucket (US Patent 5,619,621) and claims 5-7, 13-15, and 18-19 under 35 USC §103 as being unpatentable over Pucket (US Patent 5,619,621) in view of Sebastian (US Patent 5,822,206) and in further view of Toong (US Patent 6,604,114 B1).

1. An overview comparing Pucket to the claimed invention.

The present invention helps engineers during engineering discovery. As discussed in the application, electrical and other types of engineers build systems by first conceptualizing them. One way to do so is to construct a block diagram of the subsystems found in a system. For example, if an engineer is designing a motherboard for a personal computer, the block diagram may have three blocks designating a CPU, memory, and a system clock. See Figure 3A and 3B of the application for one visualization of such a block diagram. In the past, engineers would research components sold by various suppliers to come up with a set of components that could be soldered onto the motherboard so that the components are able to work together and so that they meet other requirements. One such requirement discussed in the application may be a total cost. For example, each motherboard may have a maximum cost of \$20 and so the cost of the CPU, memory and system clock must cost less than that amount as a group.

The present invention assists the engineer during the discovery phase by taking a conceptual design (such as a flowchart) for a device and leveraging its large database in which is stored thousands of items sold by various suppliers. The present invention then addresses each of the blocks in the block diagram in turn to come up with a list of possible

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candidates to be used in that block. This is illustrated in figure 3A. Finding candidates is an important phase of discovery. Before the present invention, this discovery was done manually by the engineers. Then the engineer uses the invention to choose the winning candidate from each of the candidate lists, arriving at the final hardware list that will be used to build the motherboards.

Of course, this is just one example of the invention, other examples are discussed in the application. For example, the invention may also be used by software engineers to readily discover which software modules or packages fulfill the requirements of a conceptual diagram of a new system.

The Pucket invention does not relate to helping an engineer during the discovery phase of designing some new system. Rather, Pucket is used to diagnose computation system faults. Diagnostic data for an automated archival data storage device is organized in a hierarchy of modules and submodules. When a system fault occurs, the Pucket invention uses this hierarchy of diagnostic data to investigate the cause of the fault. The Pucket invention organizes diagnostic data in a hierarchy of modules, it does not use any type of a block diagram or other conceptual design to discover which components can be used to build that design.

2. Pucket fails to teach each of the elements of claim 1.

For ease of discussion purposes only, this document will use the letters (A) through (E) to claim 1's five components, where (A) is the step of selecting, (B) is the step of submitting, (C) is the step of receiving, (D) is the step of assigning, and (E) is the step of repeating.

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Component (A) is not taught by Pucket

Component (A) recites "selecting a first block from a block design of a system, where the block design comprises a plurality of blocks, each block representing a component or subsystem of the block design". The Examiner asserts that Pucket teaches element (A) in figure 1 as well as from column 3 line 64 to column 4 line 10. Applicants disagree. Element (A) of claim 1 requires selecting a block from a block design of a system. Figure 1 does not teach this. Rather, figure 1 is a block design of the patented invention itself. To say that a drawing of a block diagram used in the cited patent to illustrate and describe the patented invention itself is tantamount to saying that figure 1 in the Pucket patent also teaches the element "means for editing and generating a continuous multi-block flowchart" found in claim 1 of US Patent Application 20040205702. While figure 1 does indeed show a block diagram of the Pucket invention, it does not teach the action of "selecting a first block from a block design of a system, where the block design comprises a plurality of blocks, each block representing a component or subsystem of the block design", as claimed in the present application.

Furthermore, figure 1's use of double lined arrows to indicate data flows of diagnostic data and/or expert system rules while single lined arrows indicate flow of control data does not relate to the element (A)'s requirement of "selecting a first block".

Component (B) is not taught by Pucket

Component (B) recites "submitting a search query to a database of objects for researching which component or subsystem to use for the first block". The Examiner asserts that Pucket teaches element (B) in figure 1 as well as column 4 line 59 to column 5 line 5. Applicants disagree. This portion of Pucket does indeed talk about "queries", but here Pucket discusses a "query of [an] event log database" where the result of this query is

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"high level facts which are substantially time Independent". Querying a log database to gain high level facts does not teach element (B)'s use of a database in order to research which component to use to build the block under investigation in the block diagram.

Component (C) is not taught by Pucket

Component (C) recites "receiving an answer set from the database of objects that satisfies the search query, where the answer set comprises at least one object from the database of objects". The Examiner asserts that Pucket teaches element (C) in figure 1 as well as column 5 lines 1-9. Applicants disagree. Pucket does indeed teach satisfying a query of a database, but the Pucket answer set is "high level facts" which are used by an inference engine to determine if a certain if-then rule in the rules database evaluates to true. As the query sent to the claimed invention's database is for researching which component to use to build a block in a block diagram, building an answer set of high level facts for a rules database used to diagnose malfunctions is not a proper teaching.

Component (D) is not taught by Pucket

Component (D) recites "assigning at least one candidate object from the answer set to the first block in the block design". The Examiner asserts that Pucket teaches element (D) in figures 1 and 2 as well as in column 5 lines 10-15 and 30-50. Applicants disagree. In this section of Pucket, when an if-then rule in the rules database evaluates to true, then the associated actions are performed. These rules determine "which (if any) of the highest level modules of the data storage system have malfunctioned". This does not teach using a database to determine which components to use to build a system that is conceptualized as a block diagram.

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Component (E) is not taught by Pucket

Component (E) recites "repeating the steps of selecting, submitting, receiving, and assigning for at least one other block in the block design". The Examiner asserts that Pucket teaches element (E) in figure 4 and 5 as well as column 3 lines 46-50. Applicants disagree. As components (A) through (D) have not been taught by Pucket, Pucket cannot teach the act of repeating these steps.

As Pucket fails to teach component (A), component (B), component (C), component (D) and component (E) of claim 1, the invention is patentable over this art and Applicants request that the rejection be withdrawn.

3. Pucket, Toong and Sebastian fail to suggest or teach the remaining claims.

The above discussion demonstrates that Pucket fails to teach not just one of the components found in claim 1, but fails to each of the five components (A) through (E). In addition, Applicants assert that the five components are not taught or suggested by any combination of Pucket, Toong and Sebastian. As claim 1 is patentable over the cited art, the remaining claims (which are either analogous to or dependent from claim 1) are therefore also patentable over the cited art. For at least these reasons, Applicants submit that all pending claims are allowable and requests that a Notice of Allowance be issued in this case.

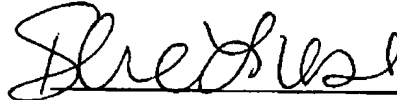
In the event a telephone conversation would expedite the prosecution of this application, the Examiner may reach the undersigned at 612-607-7508. If any fees are due in connection with the filing of this paper, then the Commissioner is authorized to charge

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such fees including fees for any extension of time, to Deposit Account No. 50-1901 (Docket 20528-11).

Respectfully submitted,



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